

An Internship Report On
OVERVIEW ON PHARMACEUTICAL FORMULATIONS

Submitted in accordance with the requirement for the degree of

B.Sc (BZC)

Under the Faculty Guideship of

Smt.M.Naga Parameswari

Department of

Chemistry

V.S.R Govt Degree & P.G College

Submitted by :-

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Reg.No: 2029223049021

III B.Sc (BZC)



V.S.R GOVERNMENT DEGREE &P.G. COLLEGE

Movva ,Krishna District, Andhra Pradesh, India

2020-2023

Student's Declaration

I, PEDAPUDI VANI a student of B.Sc (BZC) Program, Reg.No.2029223049021 of the Department of Chemistry, V.S.R Govt. Degree College do here by declare that I have completed the mandatory internship from 19/11/2022 to 04/03/2023 in Darwin Formulations Pvt Ltd Research & Ayur Pharma, ALEAP Industrial Estate, Surampalli under the Guideship of Smt.M.Naga Parameswari, Department of Chemistry, V.S.R Govt. Degree College.

P. Nani
Signature and Date

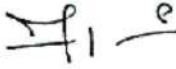
Official Certification

This is to certify that Pedapudi Vani Reg.No : 2029223049021 has completed her internship in Darwin Formulations Pvt Ltd Research & Ayur Pharma, ALEAP Industrial Estate, Surampalli on Overview on Pharmaceutical Formulations under my supervision as a part of partial fulfillment of requirement for the degree of B.Sc (BZC) in the department of Chemistry , V.S.R Govt. Degree College, Movva.



(Signature with date and seal)

Endorsements

Faculty Guide 

Head of the Department 

Principal


PRINCIPAL
V.S.R. Govt. Degree College
MOVVA - 521135, Krishna Dt., A.P.

Certificate from Intern Organization

This is to certify that Pedapudi Vani Reg.No: 2029223049021 of V.S.R Govt. Degree College, Movva underwent internship in Darwin Formulations Pvt Ltd Research & Ayur Pharma, ALEAP Industrial Estate, Surampalli from 19/11/2022 to 04/03/2023.

The overall performance of the intern during her internship is found to be Satisfactory



Authorized Signatory with Date and Seal

Acknowledgements

First, I sincerely acknowledge my grateful thanks to **Dr.S.Madhavi** madam , principal, V.S.R Govt Degree College, Movva for providing us opportunity and lending her support to do the semester internship.

I consider it a great privilege and honor to have had the opportunity to undergo the industrial training work in Darwin Formulations Pvt.Ltd Research Ayur & Pharma at ALEAP industrial estate, Surampalli. I would like to convey my heartiest thanks to **Dr.D.Lakshman Reddy** sir (Managing Director , Darwin Formulations Pvt Ltd) for providing opportunity and also facilities to accomplish the internship.

I express my deepest sense of gratitude to **K.PadmaSree** madam (MPharm), Production Manager and **Ch.Kesav** sir (M.Sc) , Quality control manager and **Surendra bapu** sir (Btech in Chem Eng) for providing their valuable time, guidance, cooperation and for monitoring our progress throughout the tenure of this internship.

I extend my deepest sense of gratitude to **K.R.Manjula** madam, Vice principal , Lecturer in Chemistry for her careful and precious guidance , support and suggestions that helped a lot in the successful completion of the internship.

And I wish to express my sincere thanks to **M.Naga Parameswari** madam, Dept of Chemistry who shared her valuable information and rendered her help during this internship period.

Finally, I would like to express my gratitude to my family and friends for their fullest support to carry out this internship successfully.

WITH PROFOUND GRATITUDE

P.VANI

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CHAPTER 1: EXECUTIVE SUMMARY

We have completed our Semester Internship under the Darwin Formulations Pvt Ltd Research & Ayur Pharma at Industrial Estate, Surampalli.

Learning Objectives:-

- * To explore career alternatives prior to graduation.
- * To integrate theory and practice.
- * To develop communication, interpersonal and other critical skills in the future job.
- * To acquire additional skills required for the world of work.
- * To acquire employment contacts leading directly to a full-time job following graduation.
- * To assess interests and abilities in the field of pharma.

* To learn to appreciate work and its function towards the future.

* To develop work habits and attitudes necessary for job success.

Outcomes achieved

* I have learnt the process of manufacturing of medicines.

* Learnt the process of primary and secondary packing.

* Learnt the different processes used for packing of medicines before being shipped to the market.

* Learnt the safety measures that has to be followed while manufacturing the medicines.

* I acquired a good knowledge on basic working operations of various machines in pharma industry.

* I quickly learned that whenever something is unclear for me, or I don't understand, it's fine to ask for clarification.

* As an intern, it is essential to be enthusiastic and open to learning new skills, asking for more work and being curious to learn and ask questions.

* During my internship I had a log book & took notes every day about new things I learned.

* As an intern, a good communication will help with productivity, efficiency, engagement and growth.

* I learnt that taking feedback will have a significant impact on our future career and success.

I am really grateful to have had the opportunity to do internship at Darwin Formulations Pvt. Ltd and have received so much value from what I learned.

CHAPTER 2: OVERVIEW OF THE ORGANIZATION

Introduction of the Organization:-

Darwin group of companies currently manufacturing from 2 units i.e. Darwin formulation Pvt Ltd and Darwin Research & Ayur pharma.

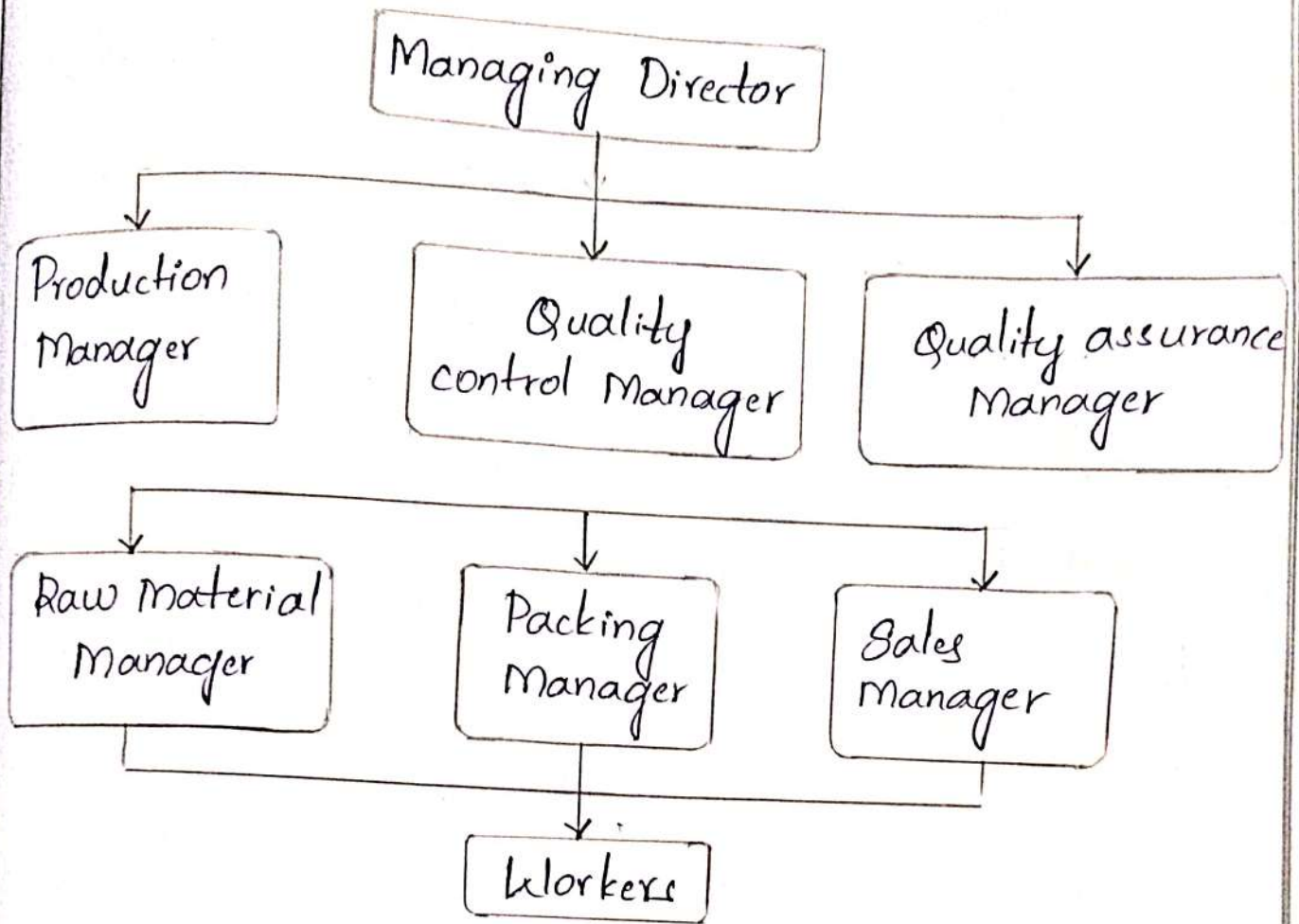
Vision, Mission and Values of the Organization:-

- * To provide safe, high quality patient care in an atmosphere of professionalism, respect and effective communication.
- * To work towards human welfare by manufacturing and delivering quality medicines at affordable prices.

Policy of the Organisation:-

Maintenance of total pharmaceutical production and quality control under CGMP & GLP.

Organizational structure:



Roles and responsibilities of the employees:

Pharmaceutical staff should monitor several drug related concerns such as quality control, quality assurance, market flow as well as the pricing.

Performance of the Organization :

Performance of the organization in terms of turnover per annum is around 5 crores.

Future plans of the Organization :

Darwin formulations always aims to deliver safest, stable qualified product to the consumer.

CHAPTER 3: INTERNSHIP PART

Activities / Responsibilities in Darwin Formulations
during internship are as follows

- * Should attain basic knowledge on manufacturing processes of tablets, syrups, ointments, capsules and soaps.
- * In Quality control lab, one must learn the lab activities such as operation and handling of various equipments such as HPLC, Disintegration rate test apparatus, pH meter, UV visible spectrophotometer, Dissolution rate test apparatus, stability chamber, KF apparatus and friability apparatus through theoretical explanation and practical observation work by Quality control manager.
- * And one should perform some basic activities in production unit like Observing the primary packing of tablets, syrups, ointments etc and

its types, 2^o packing of tablets and ointments, capsule filling, ^{checking the} hardness of tablets, Identifying the defected tablets and observing what kind of machines are using in each section, documentation work etc.

* Should listen the theoretical & practical classes given by Darwin staff members on various concepts like - manufacturing process of tablets, Raw materials that are used, types of machines and its handling, packaging of drugs, marketing etc.

* Should learn the documentation work such as chemical analysis report, Raw material entry documentation record etc.

* Should observe and record all the pharmaceutical activities.

* Should interact with the co-workers, and should build up the conversational abilities, and must acquire communicational skills, technical skills etc.

* Responsibilities include - should reach the organisation 10 mins before the scheduled time. and should obey the rules & regulations of Darwin formulations organisation such as wearing a clean lab apron, proper footwear, mask, gloves etc. and one should handle the chemical with utmost care. should complete the assigned tasks on time.

Working Conditions

We have accomplished our semester internship entitled "Overview on Pharmaceutical formulations" because of favourable working conditions at Darwin formulations Pvt Ltd at Surampalli that includes good working environment, healthy atmosphere, and proper maintenance of all facilities, positive interactions of Darwin members, cordial relationship of Darwin staff members, All these aspects improved our working abilities and made our

work easier by the proper guidance of our supervisor / Production manager. We have improved our communication and conversational abilities, time management & discipline. We managed our time productively i.e. by reaching the Darwin Industry on time and performing all the assigned tasks in time.

Weekly work schedule

In Darwin formulations, Our supervisor has assigned us different tasks by allotting in groups. We executed all the tasks according to the weekly work schedule which was given by the supervisor. Everyday our supervisor observes our daily activity log and observational notes. and she monitors our working progress and understanding & comprehending levels & also our communication, time management skills etc.

Equipment

The equipment is used in Quality control lab

lab are centrifuge, pH meter, stability chamber, disintegration test apparatus, dissolution rate test apparatus, HPLC, UV-vis spectrophotometer, friability apparatus, polarimeter, water bath, oven, KF apparatus etc.

In Production unit - The machines such as Maus mixer, cone blender, tray dryer, multi mill, sifter, compression, semi automatic capsule filling machine, Hand filling machine, planetary ointment mixer, Automatic ointment filling machine, Batch & sugar tank, Syrup filling machine, Extruder, try roller etc.

Tasks performed :

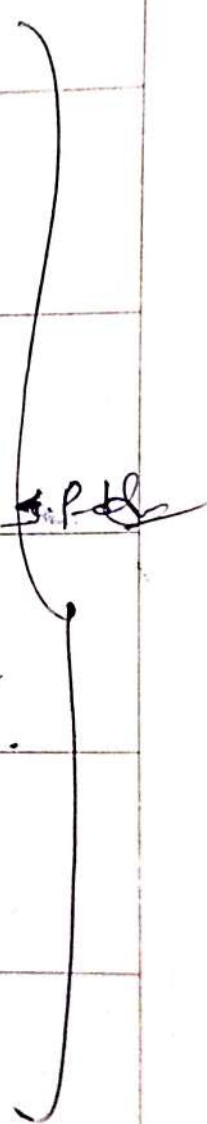
The activities which are given by the supervisor were executed by us in time. The list of activities are as follows :

- * 1^o & 2^o packing of drugs
- * Capsule filling
- * Checking the friability & hardness of tablets.
- * Weighing of tablets.

- * Identifying the defected tablets
- * Handling of various equipment - friability apparatus, Monsanto, pH meter, DT etc.
- * Observing the working operation of machines used in production unit like mass mixture, sifter, compressor, cone blender, syrup filling machine, try roller, extruder etc.
- * Learnt the documentation work i.e. chemical analysis report and raw material entry record.
- * Learnt the basic manufacturing processes of drugs through theoretical classes & explanation by the production manager and Quality control manager.

Through this internship, we acquired technical skills related to pharma and improved communication skills, time management, leadership and adaptability skills etc.

ACTIVITY LOG FOR THE FIRST WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1 19/11/22	Industrial visit - Darwin Formulations Pvt. Ltd Research & Ayur Pharma.	Well organised production unit with tablets, capsules, ointment, syrups & soap sections & Quality control lab.	
Day -2 21/11/22	Uses of HPLC	Identification, separation and quantification of drugs.	
Day -3 22/11/22	Operation of HPLC	Manual operation i.e Direct injection of analyte to the HPLC system.	
Day -4 23/11/22	Mobile phase & Sample preparation	M.P role is to transport the sample through the separation column & subsequently to the detector for identification of separated component.	
Day -5 24/11/22	Software and handling of HPLC	Software is responsible for saving injection data sequence, user management & other functions.	
Day -6 25/11/22	Sample analysis and calibro calculation	To determine the purity (or) assay of the sample	
Day -7 26/11/22	Calibration	Quantifies & controls errors (or) uncertainties within measurement process to an acceptable level	

WEEKLY REPORT

WEEK - 1 (From Dt..... to Dt.....)

Objective of the Activity Done: High Pressure liquid chromatography

Detailed Report:

- * Operation of HPLC - Software Empower 3 explanation has done.
- * Mobile phase preparation :-
Phosphate buffer pH 6.8 prepared.
- * Sample preparation ; 10 ppm of
levocetirizine tablets completed.
- * Importance of HPLC ; column, stationary
phase, mobile phase, solution, purging,
runtime, retention time, injection
volume, flow rate, peak, peak area,
Calculation terms explained.
- * Injection of sample : 20 µL
peak solution completed.
- * Area integration, calculation completed
- * Standard solution completed.
- * Sample % Assay calculating completed
- * Calibration of HPLC with caffeine
completed.
- * Detailed explanation of HPLC
completed.

ACTIVITY LOG FOR THE SECOND WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1 28/11/22	Uses of UV-visible Spectrophotometer.	Determination of API and identification of contaminants.	
Day -2 29/11/22	What is nanometer, Beers law.	States that Conc. and absorbance are directly $\propto$ to each other.	
Day -3 30/11/22	Lamberts law. Beer-Lamberts Law	Absorbance & path length are directly proportional. Sample path length & Conc. of sample $\propto$ Absorbance of the light.	
Day -4 01/12/22	Sample preparation 10ppm, 100ppm	Samples are prepared at different concentrations to find absorbance at a given wavelength to know linearity.	
Day -5 02/12/22	Sample analysis & Calculation	Quantitative technique used to measure how much a chemical substance absorbs light.	
Day -6 03/12/22	Calibration	It is imp. not only to ensure that the instrument provides accurate results but also to determine if there are any faults with the spectrophotometer.	

WEEKLY REPORT

WEEK - 2 (From Dt. 28/11/22 to Dt. 03/12/22)

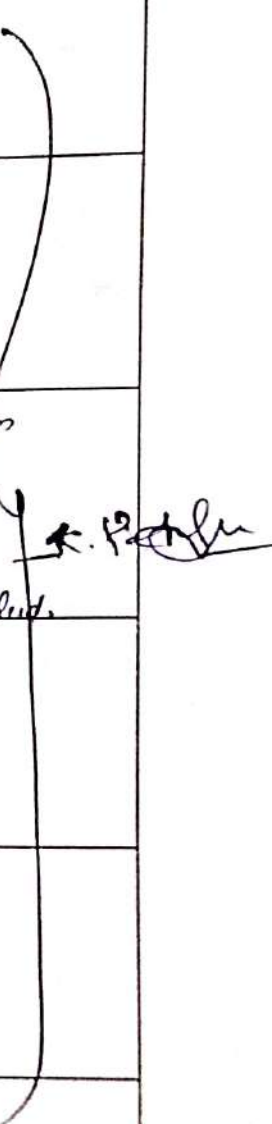
Objective of the Activity Done:

To know about UV-visible spectrophotometer.

Detailed Report:

- * Operation of UV-visible spectrophotometer has explained.
- * Sample preparation, standard preparation, How absorbance observed has explained.
- * Concentration of sample and standard solution
- * What is absorbance, transmittance, concentration explained.
- * What is Beer's law, Lambert's law & Beer-Lambert's law has explained.
- * How above laws are working explained.
- * Calibration of U.V as per IP.
- * Absorbance of sample and standard tablets.
- * % of Assay calculated.

ACTIVITY LOG FOR THE THIRD WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1 05/12/22	Why dissolution	Rate of release of a drug's substance from dosage form.	
Day -2 06/12/22	Uses of dissolution & operation	It measures the extent and rate of solution formation from a dosage form such as tablet, capsule, ointment etc.	
Day -3 07/12/22	Explanation & Handling	A liquid named dissolution medium is placed in vessels. Dissol. medium should be water based having pH -5 -7 at 37°C. It should be acc. to std test procedure of product.	
Day -4 08/12/22	Buffer preparation & Different types of tablets	It is prepared to simulate the intestinal conditions and to know the amount of drug release.	
Day -5 09/12/22	Sample Analysis for uncoated tablet	uncoated tablet is placed in buffer and the rate of drug release is calculated. The conditions are maintained as per pharmacopiea.	
Day -6 10/12/22	Sample Analysis for SR tablets	SR tablets are formulated to release the drug slowly over an extended period of time.	

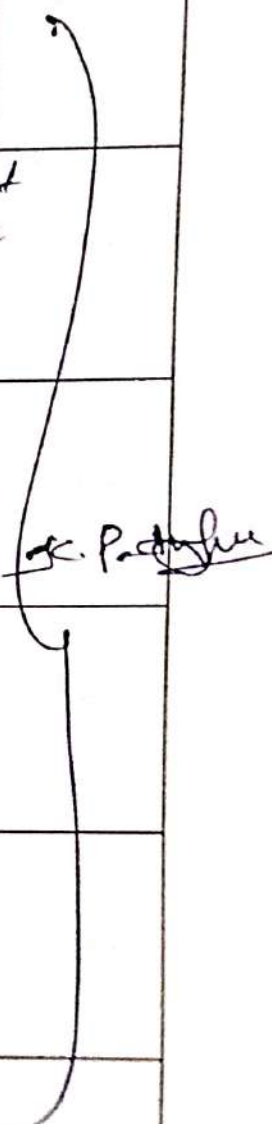
WEEKLY REPORT
WEEK - 3 (From Dt. 05/12/22.. to Dt. 10/12/22..)

Objective of the Activity Done:

Detailed Report:

- * Dissolution explained, What is the use of dissolution apparatus.
- * Operation & Handling of dissolution
- * RPM setting, what are paddle & Basket temperature adjustment, time lap setting explained.
- * For uncoated, film coated, extricated & sustain release tablets explained
- * What are S_1, S_2, S_3
- * What are L_1, L_2, L_3
- * How sample collect & Analysis
- * Result Output
- * What is the conclusion
- * Why dissolution required for tablets explained
- * Buffer (or) medium preparation pH adjustment for medium etc explained.

ACTIVITY LOG FOR THE FORTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1 12/12/22	Why stability required	Stability chambers provide a controlled temp & humidity environment.	
Day -2 13/12/22	Uses of stability studies	To determine the product shelf life, optimal storage conditions, retest period & assure the overall quality of product.	
Day -3 14/12/22	Operation of stability chamber	Simple principle of maintaining a stable temp, and a stable relative humidity value.	
Day -4 15/12/22	Real time stability studies	Product is stored at recommended storage conditions & monitored until it fails the specification.	
Day -5 16/12/22	Accelerated stability studies - Explanation of theory	A product is stored at elevated stress conditions (temp, pH, humidity)	
Day -6 17/12/22	Forced degradation stability studies. - Theoretical explanation	To establish degradation pathways of drug substance and drug products.	

WEEKLY REPORT
WEEK - 4 (From Dt. 12/12/22. to Dt. 17/12/22.)

Objective of the Activity Done:

Detailed Report:

- * Stability of the tablets explained
- * What is half life & shelf life & difference between them explained.
- * Why stability playing a major part,
- * What is stability chamber
- * Operation & Handling of stability chamber explained.
- * Temperature, Humidity adjustments explained.
- * How stability vary from time to time
- * Effect of temperature & Humidity on them
- * What are
 1. Realtime stability studies
 2. Accelerated stability studies
 3. Forced degradation stability studies
- * Importance of above three types of stability studies explained.
- * Temperature & Humidity factors effect the Stability of the tablets (or) capsules (or) other pharmaceutical products explained.

ACTIVITY LOG FOR THE FIFTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1 19/12/22	Why DT	It is used to how quickly the tablet breaks down into smaller particles, allowing for a greater surface area & availability of drug when taken by a patient.	J. P. D. Jee
Day - 2 20/12/22	Uses of Disintegration test	To test how a drug in pellet form will disintegrate in solution.	
Day - 3 21/12/22	Operation procedure.	It works by raising & lowering a basket in & out of test medium for a set period of time to see if tablet dissolves (or not).	
Day - 4 22/12/22	Some Hardness Test	To determine the breaking point & structural integrity of a tablet under condition of storage handling.	
Day - 5 23/12/22	Monsanto instrument	It is used in QC tableting production for taking quick readings of hardness of tablets.	
Day - 6 24/12/22	Holiday		

WEEKLY REPORT

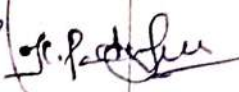
WEEK - 5 (From Dt...19/12/22 to Dt...29/12/22)

Objective of the Activity Done:

Detailed Report:

- * What is disintegration time & what is Hardness of tablet explained.
- * Why disintegration effect the stability of tablet.
- * Why Hardness of the tablet effect the coating, packing & stability of the tablet.
- * Disintegration time for uncoated, filmcoated, entericated tablets explained
- * Limits & Results explained
- * What are different mediums mediums of disintegration of tablets.
- * Disintegration apparatus, Hardness tester handling & operation by individual completed.
- * Calibration of disintegration apparatus done.

ACTIVITY LOG FOR THE SIXTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1 26/12/22	Why - friability	To determine the resistance of compressed coating tablets during manufacturing, packing & shipping.	
Day - 2 27/12/22	Uses of friability.	To measure the strength of the tablets.	
Day - 3 28/12/22	Operation by individual.	It enables the tumbling of tablets at each turn of drum - for tablet with 70.65g (avg wt) should take 10 whole tablets.	
Day - 4 29/12/22	pH meter.	To measure the acidity or alkalinity of a solution	
Day - 5 30/12/22	Buffer solution.	It is prepared with buffer capsule like acidic, basic & neutral.	
Day - 6 31/12/22	Operation by individual	It works by measuring the potential diff of test sol. and std sol or known sol and calculate the pH.	

WEEKLY REPORT

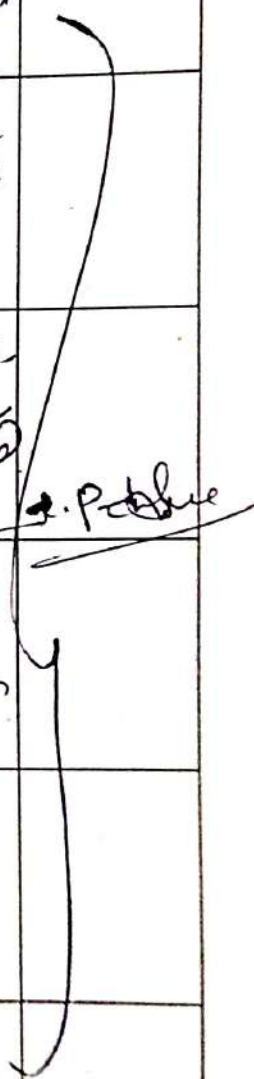
WEEK - 6 (From Dt. 26/12/22 to Dt. 31/12/22)

Objective of the Activity Done:

Detailed Report:

- * Why Friability
- * Friability of different tablets explained
- * How Friability effect the coating & stability of the finished product.
- * What is pH meter
- * How pH meter calibrated with different buffer solutions of pH 4.0, 7.0, 9.2.
- * Buffer solutions preparation with buffer capsules.
- * pH of different syrups - acidic/basic/neutral
- * pH of cough syrups, Antacid syrups, B-complex syrups, Enzyme syrups, multivitamin syrups explained.
- * Readings recorded individually
- * What is the importance of pH of the syrup on stability.
- * Friability limits for uncoated tablets Explained.

ACTIVITY LOG FOR THE SEVEN WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1 02/01/23	Why KF	To determine the amount of water content that present in the sample.	
Day -2 03/01/23	Uses of KF apparatus	To determine the moisture content of the sample.	
Day -3 04/01/23	Operation of KF apparatus.	Apparatus - burette, Magnetic stirrer, Electrode (Platinum)	
Day -4 05/01/23	Moisture content for different samples	Sample types - liquids, solids, slurries and even gases.	
Day -5 06/01/23	Sample analysis by individual	Moisture content $= \frac{BR \times F \times 100}{WT \times 1000}$	
Day -6 07/01/23	Results & Limits Explanation	KF solution neutralises the sample.	

WEEKLY REPORT

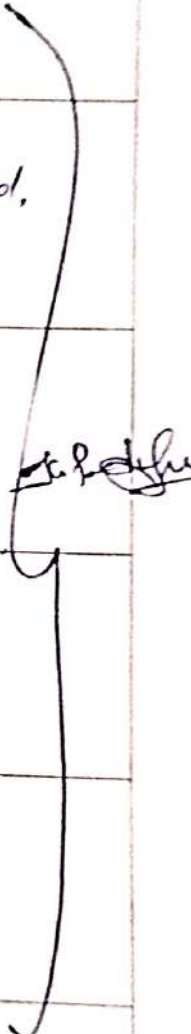
WEEK - 7 (From Dt. 02/01/23 to Dt. 07/01/23)

Objective of the Activity Done:

Detailed Report:

- * What is Karl Fischer apparatus
- * What are uses of KF
- * How moisture content recorded & calculated
- * KF reagent means? and what is the flaming / Burning reaction takes place in the vessel of KF apparatus.
- * Moisture of the sample calculation
- * Why moisture of Raw material is most important.
- * In-process sample moisture analysis.
- * Moisture of the product impact on production, Batch size, tablet quality / product quality, stability of the product.
- * Moisture content of individual sample done. Calculation done by individual.
- * Reaction between Iodine, Sulphur dioxide with water / moisture of the sample has explained.

ACTIVITY LOG FOR THE EIGHTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1 09/01/23	Why titrations, Types of titrations.	To determine the conc. of unknown sol. by using known solution.	
Day -2 10/01/23	Iodometric Complexometric titrations.	To determine the conc. of oxidising agent in sol. Determination of mix. of diff. metal ions in solution.	
Day -3 11/01/23	Acid base titrations & Potentiometric titrations.	Determination of conc. of an acid/base by neutralising it with std sol. of base/acid. Lab. method to determine the conc. of given analyte.	
Day -4 12/01/23	Difference b/w aqueous & Non-aqueous titrations	Aq. utilises H_2O as a solvent to liquify analyte. Non-aq. utilizes organic solvent for liquification of the sample.	
Day -5 13/01/23	Hand on experience calculations.	Learned the titrations, calculations by hands on experience.	
Day -6 14/01/23	Holiday	-	-

WEEKLY REPORT

WEEK - 8 (From Dt. 09.01.23 to Dt. 14.01.23..)

Objective of the Activity Done:

Detailed Report:

* Chemical analysis - Titrations.

* Types of titrations - Iodometric, complexometric, Acid-Base, Potentiometric, Aqueous, Non-Aqueous titrations explained.

* What is end point, colour change, pH change in potentiometric titrations.

* Non-aqueous titrations - perchloric acid titrations.

* What is molarity, normality, Molality explained.

* What is standardization.

Hands on experience in Normality of 0.1N HCl, 0.1N NaOH solution preparation & standardization.

* Individual analysis of samples & calculations & Results explained.

ACTIVITY LOG FOR THE NINTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1 16/01/23	Holiday		
Day -2 17/01/23	Raw material entry of drugs	Verification of drug related to batch no;	
Day -3 18/01/23	Raw material entry of drugs	Quantity, mfg date & Exp date	<u>K. P. Reddy</u>
Day -4 19/01/23	Raw material entry of excipients	Verification of ^{ci} excipients related to	
Day -5 20/01/23	Raw material entry of excipients	batch number, Quantity, manufacturing date,	
Day -6 21/01/23	Raw material entry of excipients	Expiry date.	

WEEKLY REPORT

WEEK - 9 (From Dt. 16/01/23. to Dt. 21/01/23.)

Objective of the Activity Done:

Detailed Report:

We have observed the Raw material entry documentations under the guidance of supervisor. Different documents were maintained according to their specifications like Raw material entry ledger for drugs and Raw material entry ledger for excipients.

We have observed the packing material entry for different grades of foils.

In this organization, everything was documented according to plant specifications.

ACTIVITY LOG FOR THE TENTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day - 1 23/01/23	Mass mixer-1	Formulating drug product with excipient.	
Day - 2 24/01/23	Mass mixer-1	Capacity of 100 kgs., Specific RPM	
Day - 3 25/01/23	Mass mixer-2	Capacity of 50 kgs	
Day - 4 26/01/23	Republic Day		
Day - 5 27/01/23	Tray dryer-1	No. of trays - 48	
Day - 6 28/01/23	Tray dryer-2	No. of Trays - 24	

WEEKLY REPORT

WEEK - 10 (From Dt. 28/12/22 to Dt. 28/01/23)

Objective of the Activity Done:

Detailed Report:

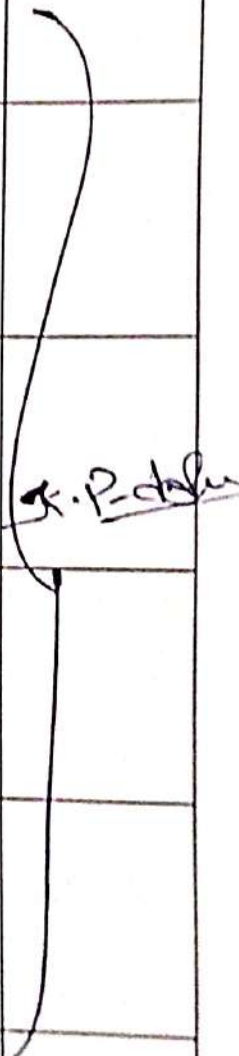
Formulating products were done through machinaries. Mass mixer was the initial step in process. We have observed different capacities of mass mixers i.e. 100 kgs & 50 kgs.

Active pharmaceutical and suitable excipients were poured into the mass mixer followed up by the process.

Tray dryers of different capacities were observed by us like 48 tray dryer and 24 tray dryer.

Drying temperature was different for different materials. Process was done through related specifications followed up by documentation.

ACTIVITY LOG FOR THE ELEVENTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1 30/01/23	Multi mill	Different grades of sieves	
Day -2 31/01/23	Sifter	Sieves of different grades.	
Day -3 01/02/23	Cone blender	Blending process	
Day -4 02/02/23	Compression	Punching of tablets	
Day -5 03/02/23	Compression	27 station punching machine	
Day -6 04/02/23	Compression	20 station	

WEEKLY REPORT

WEEK - 11 (From Dt. 30.01/23. to Dt. 04/02/23)

Objective of the Activity Done:

Detailed Report:

We have observed the multimill which was used to mix dried large size of granules into small size by setting different grades of sieves.

We have also observed the sifter which was used to sift raw materials to obtain uniform size.

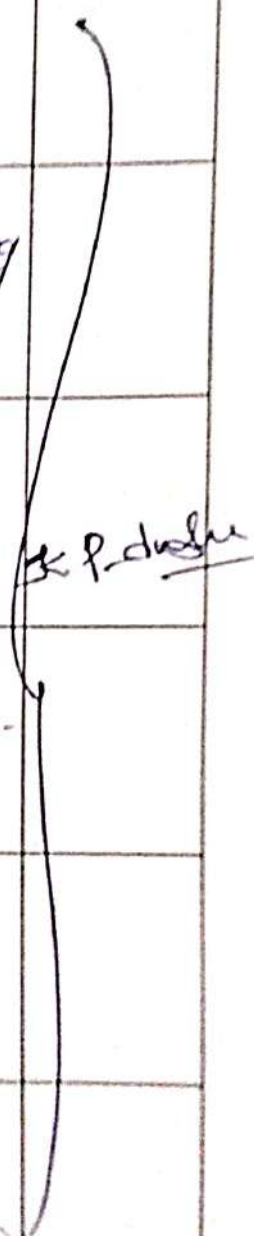
Cone blender was used to blend or mix the granules of drug with lubricants.

Finally obtained blended powder or granules were punched into tablet of different sizes i.e. 6mm, 9mm, 12.5mm and shapes through punching machines.

ACTIVITY LOG FOR THE TWELVETH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1 06/02/23	Capsules	Hard gelatin capsules - Head & body.	K. Pradeep
Day -2 07/02/23	Semi automatic machine	Head & body of capsule was separated.	
Day -3 08/02/23	Semi automatic machine .	gms of granules must be filled in the bodies of capsules.	
Day -4 09/02/23	Hand-filling machine	filling was done through manually.	
Day -5 10/02/23	Hand-filling machine	Filling the capsules manually.	
Day -6 11/02/23	Handling the semi automatic capsule machine .	20,000 to 80,000 capsules can be produced per day.	

ACTIVITY LOG FOR THE THIRTEENTH WEEK

Day & Date	Brief description of the dally activity	Learning Outcome	Person In-Charge Signature
Day -1 13/02/23	Ointment	Semi-solid dosage form	
Day -2 14/02/23	Planetary mixer	Manufacturing machine	
Day -3 15/02/23	Automatic-filling machine	Ointment was filled into tubes.	
Day -4 16/02/23	Liquids	medicated syrupe preparations was observed.	
Day -5 17/02/23	Batch & sugar tank	500 ltrs capacity	
Day -6 18/02/23	Filling machine	2 head-filling	

WEEKLY REPORT

WEEK - 13 (From Dt. 13/02/23 to Dt. 18/02/23.)

Objective of the Activity Done:

Detailed Report:

Ointment is a semi-solid formulations. Different category of ointment preparations were observed.

Planetary mixer of 100 kgs and 60 kgs were seen. Procedures were done through specifications.

Filling of ointment into various pack size were seen followed up by carton packing.

Liquids are sugar based concentrated medicated solutions.

Procedure for preparations were done through related specifications.

Prepared syrup was filled through 2 head filling machine followed by labelling and packing. checking information on label was important.

WEEKLY REPORT
WEEK - 12 (From Dt. 06/02/23 to Dt. 11/02/23.)

Objective of the Activity Done:

Detailed Report:

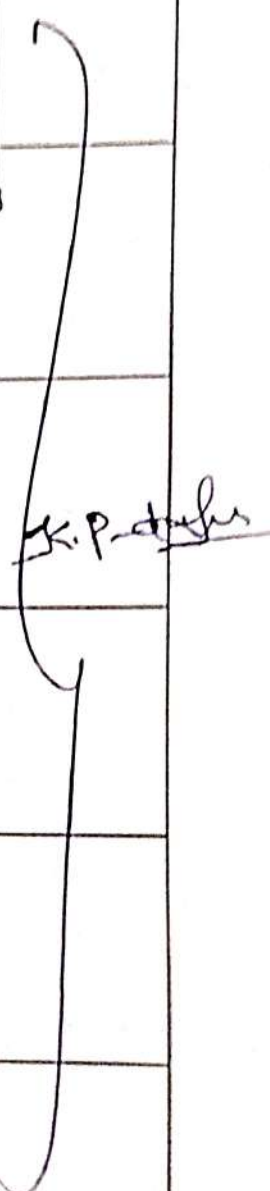
Capsules of different sizes like '0', '2' size were observed.

Capsules were also in different colours.

We have observed that the filling of capsules was done through semi-automatic filling machines and stand filling machine.

Finally filled capsules with required drug was polished and followed up by primary packing.

ACTIVITY LOG FOR THE FOURTEENTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1 20/02/23	Primary packing	Drug product dosage form directly come in contact	
Day -2 21/02/23	Alu-Alu	Base foil is 4-times thicker & printing foil was made of Aluminium	
Day -3 22/02/23	Alu-Alu	Different size & shape of moulds were used.	
Day -4 23/02/23	Blisters	PVC & Printing foil	
Day -5 24/02/23	Blisters	Different size & shape moulds were used	
Day -6 25/02/23	Strip	Same grade of Aluminium was used on both sides of strip	

WEEKLY REPORT
WEEK - 14 (From Dt 20/02/23 to Dt 25/02/23.)

Objective of the Activity Done:

Detailed Report:

Primary packing - Drug product dosage form directly come in contact with packing either blister or Alu-Alu. Primary packing gives protection from moisture and light. It also give elegant appearance to product.

Alu-Alu packing consists of base foil and printing foil. Base foil is four times more thicker than printing foil.

Blister packing consists of pvc (Polyvinyl pyrrolidone) and printing foil.

Strip packing consists of Aluminium foil and of same thickness on both sides.

Checking of Batch no, Mfg dt, Exp dt & MRP were very important on strip.

Bottle packing (tablets & capsules) is also primary packing.

ACTIVITY LOG FOR THE FIFTEENTH WEEK

Day & Date	Brief description of the daily activity	Learning Outcome	Person In-Charge Signature
Day -1 27/02/23	Secondary packing	consists of cartons cover catch covers.	
Day -2 28/02/23	Secondary packing.	consists of cartons cover, catch covers.	
Day -3 01/03/23	Tertiary packing	consists of shippers, corrugated boxes.	
Day -4 02/03/23	Tertiary packing	consists of shippers, corrugated boxes.	
Day -5 03/03/23	Soaps	Medicated soaps preparation - manufacturing process.	
Day -6 04/03/23	Soaps	Different sizes (weights) and shapes.	

WEEKLY REPORT

WEEK - 15 (From Dt. 27/02/23 to Dt. 04/03/23.)

Objective of the Activity Done:

Detailed Report:

Secondary packing gives protection to primary packing which in turn to product. Secondary gives colourful and elegant appearance to product. It consists of cartons, catch covers, covers.

Tertiary packing gives protection to secondary packing and primary and in turn to product during shipping, transportation. 3rd packing plays important role.

Medicated soaps of different sizes and shapes were done through specified plant process.

CHAPTER 5: OUTCOMES DESCRIPTION

Describe the work environment you have experienced (in terms of people interactions, facilities available and maintenance, clarity of job roles, protocols, procedures, processes, discipline, time management, harmonious relationships, socialization, mutual support and teamwork, motivation, space and ventilation, etc.)

We got to interact with Production Manager K. Padma Sree madam, Quality control manager Ch. Keelav sir and other skilled work force of the Darwin Formulations Pvt Ltd company. They gave us an indepth knowledge about the company and the products they manufacture. Facilities provided by the Darwin Labs are excellent and everything is maintained systematically.

We got to know about the job role of a Technical Assistant, the protocols to be followed. The staff and workers were very cordial and amicable. We learnt to handle a few instruments. They explained us about the various jobs available right from Laboratory

based research and development to clinical trials, regulatory affairs, drug safety, manufacturing, quality assurance, quality control, validation all the way through to marketing, sales and distribution. The work environment was absolutely employee-friendly. I also learnt about Time-Management to complete all my given tasks on time. I learnt to be friendly with all my friends and co-workers at the organisation. The support I received from the project manager is immense. I learnt to do teamwork. On the whole it was a great learning experience in all walks of life which will be of huge help to me in my future.

Describe the real time technical skills you have acquired (in terms of the job-related skills and hands on experience)

Intern Organisation that is in Darwin formulations Pvt Ltd, we were intended to check the defective and undetective strips of primary packing. For that, we concentrated a lot to find the defective ones. And then we collected the product from the defective strips by tearing off.

I was also involved in secondary packing that is carton packing, checking the batch number, MFG date, expiry date and MRP. I have done written documentation in which I was asked to enter about the materials.

I have learnt to enter the data in excel sheet. In that I have entered the foil weights.

Describe the managerial skills you have acquired (in terms of planning, leadership, team work, behaviour, workmanship, productive use of time, weekly improvement in competencies, goal setting, decision making, performance analysis, etc.

I learnt a lot of management skills, abilities and tryouts needed to perform certain duties, usually as it pertains to managing a team, such as solving problems, communicating well and motivating employees. Mostly analytical thinking, people management, business knowledge, leadership, budgeting, communication, collaboration teamwork and conceptual thinking are the main things that I have learnt ~~from~~ under this organisation.

From my intern work place, I have acquired some of the managerial skills like time management, work management, behaviour management and performance management.

I have learnt to manage my timings to reach my organisation and to complete the assigned tasks on time. I have learnt to schedule my daily activity works and organizational works. I gave priority to the work given by my heads in my intern organization and completed in time.

I have also acquired how to manage my behaviour i.e. how to treat everyone with respect and develop friendly relationship with each other. I have also improved my work performing skills.

I have never neglected any work ^{that} given by the supervisor. Sometimes, I even became an opponent or contender to my coworkers.

Finally, I have acquired a good no. of managerial skills in Darwin Formulations Pvt Ltd.

Describe how you could improve your communication skills (in terms of improvement in oral communication, written communication, conversational abilities, confidence levels while communicating, anxiety management, understanding others, getting understood by others, extempore speech, ability to articulate the key points, closing the conversation, maintaining niceties and protocols, greeting, thanking and appreciating others, etc.)

I have improved my communication skills as follows :

- * Firstly, I learnt to listen carefully what the Production manager is trying to tell us.
- * I improved my body language by maintaining good eye contact, a smile and small gestures of greeting people.
- * I learnt to be brief and specific.
- * I started to write down the important points, through this I improved my writing skills.
- * I learnt to treat everyone equally with respect.
- * I was taught to be mindful of the way I was communicating with others.

* I learnt to be patient, empathetic, persuasive and respond professionally.

* I have learnt to prioritize work, planning and executing the work assigned to me efficiently and submitting the assigned work on task on time.

* I have learnt to be polite, humble and punctual.

* Initially, I was very introvert, now my interpersonal skills have improved to a great extent, as now I started conversation with my friends and coworkers at the Darwin formulations organisation.

Describe how could you could enhance your abilities in group discussions, participation in teams, contribution as a team member, leading a team/activity.

To develop our communication skills and leadership skills, we must participate in group discussions.

The first thing I learnt is that :-

- * If I have valuable information or statistics that are relevant to the topic then only I should initiate a conversation in the group discussion.

- * If we are uncertain we must listen to other participants and then rephrase ~~our~~ our response accordingly.

- * We must respect others opinions and communicate our perspective assertively and not aggressively.

- * We must control our emotions and stay calm and at no time should we get angry.

- * We must be positive and confident

throughout the group discussion.

* We must avoid deviating from the topic.

Teamwork has helped me in problem solving, communication, to have trust, to be flexible, to be responsible, to collaborate helped in more learning opportunities. Time management, conflict resolutions, commitment, accountability, creativity and achieving the results.

I have learnt to share my knowledge, ideas, support my teammates, to take initiative in case someone is unwilling to take up the responsibility, to be flexible and welcome collaboration. I have learnt that integrity and honesty are of utmost importance and we must stay dedicated to the company's values and abide by all its rules and regulations and professional ethics.

One character which I learnt is the ability to work effectively under pressure, or in challenging situations while maintaining a positive attitude.

Describe the technological developments you have observed and relevant to the subject area of training (focus on digital technologies relevant to your job role)

The various apparatus, instruments, machines which we observed at Darwin formulations organisation are:

High performance liquid chromatography, UV-visible spectrophotometer, Dissolution rate test apparatus, Monsanto, pH meter, K.F apparatus, Stability chamber, Friability apparatus, Mass mixer, Tray dryer, Cone blender, Multimill, sifter, Compression machine, Semi automatic capsule filling machine, Hand filling machine, Planetary ointment mixer, Automatic filling machine, Batch & sugar tank, Syrup filling machine and primary packing machines such as Alu-Alu, Blister and strip.

Technological development is overall process of inventions, innovations and diffusion of technology. It also requires to

upgrade drug quality planned during research development and to find product during manufacturing as well as to guarantee that stable quality is transferred.

Technological innovation in pharmaceutical industry can improve the relationship between pharmaceutical business and their customers.

Artificial Intelligence (AI) is assisting the Pharma Industry in accelerating the drug discovery and manufacturing process and design post launch and effective marketing strategies to analyse profiles of the individual and to compare the efficacy of drugs and demand.

Big data analytics can reduce exploration cycles making the discovery and development of new drugs quicker. They can also determine the side effects of a drug before hand which consequently shortens the time require for clinical trials.

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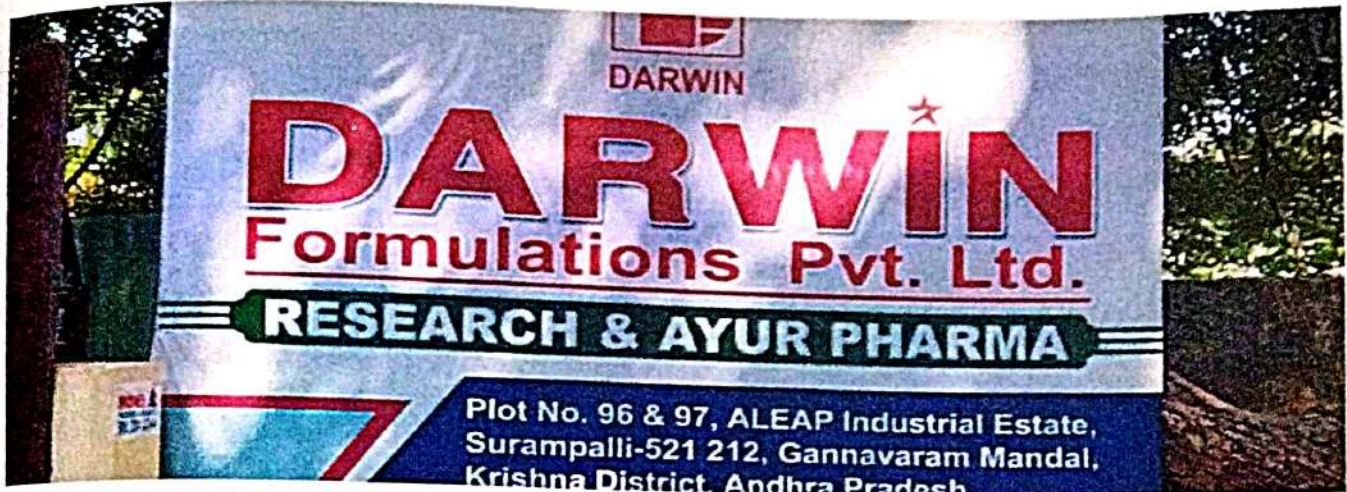
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Artificial Intelligence (AI) is assisting the Pharma Industry in accelerating the drug discovery and manufacturing process and design post launch and effective marketing strategies to analyse profiles of the individual and to compare the efficacy of drugs and demand. Big data analytics can reduce exploration cycles making the discovery and development of new drugs quicker. They can also determine the side effects of a drug before hand which consequently shortens the time require for clinical trials.

Present working internship pharma industry is with full of documentation in several fields like production, QC, QA and purchase details.

I worked in documentation of raw material packing and printing foils, cartons etc. I have learned about documentation for stock details of RM and packing materials after process remaining quantity is documented and verified whether the material is same as both physically and in stock records.

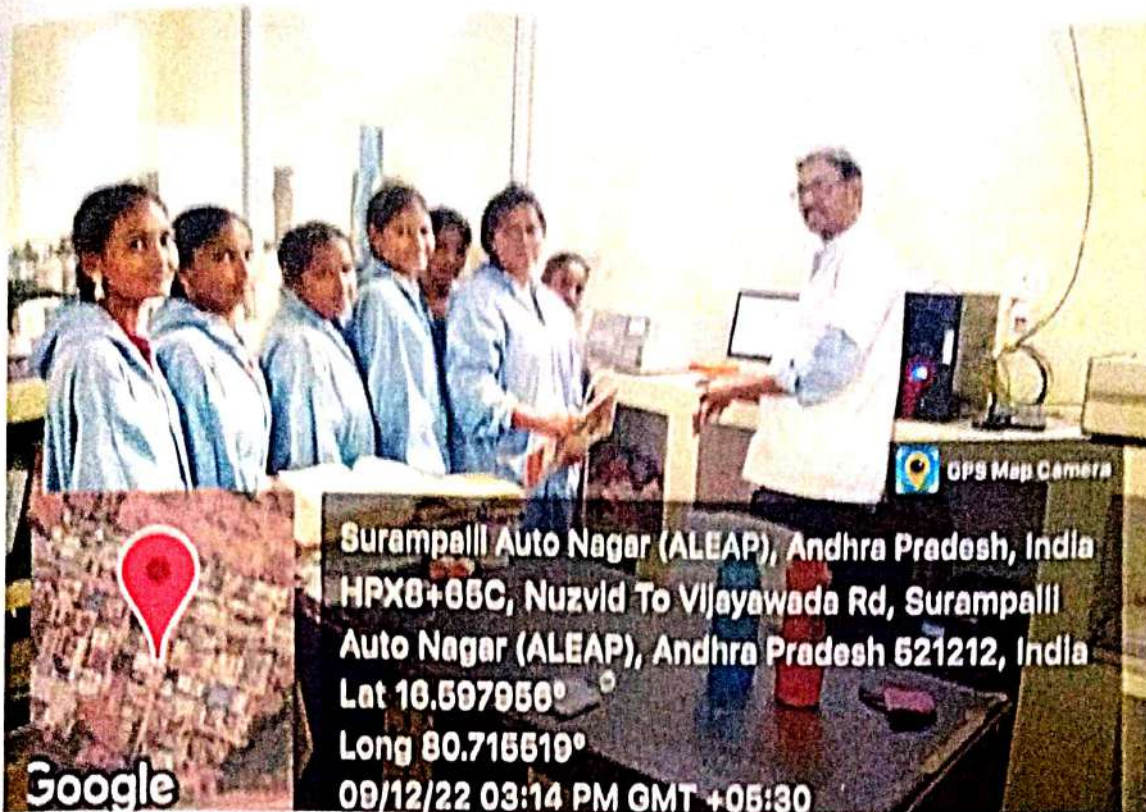
PHOTOS & VIDEOS LINKS

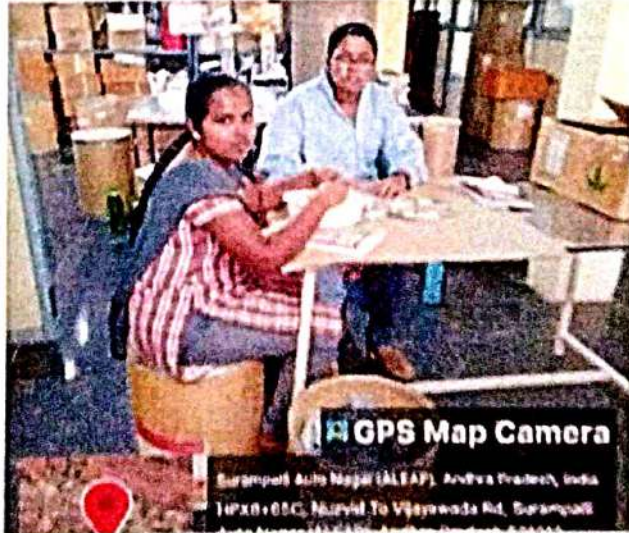
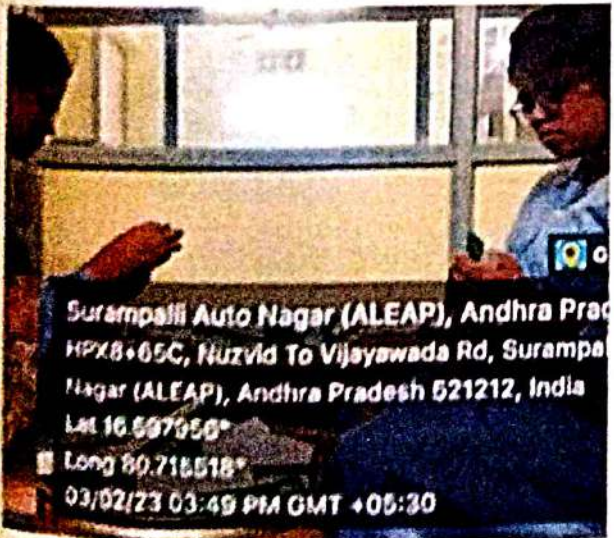
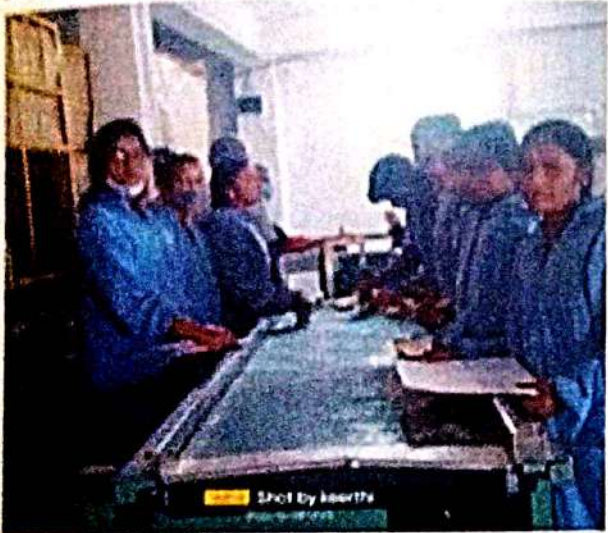
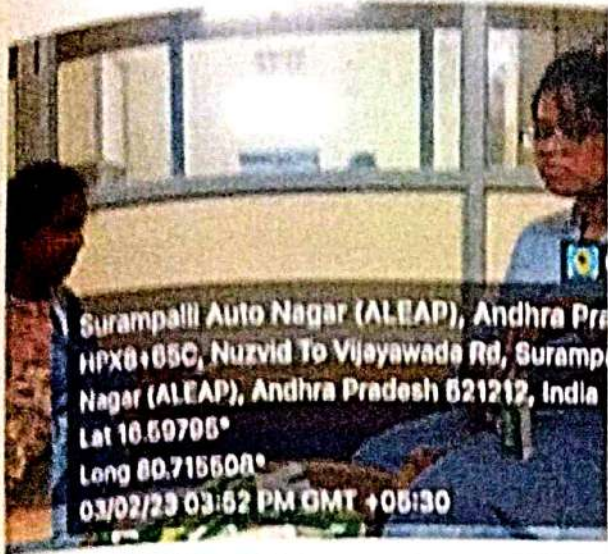


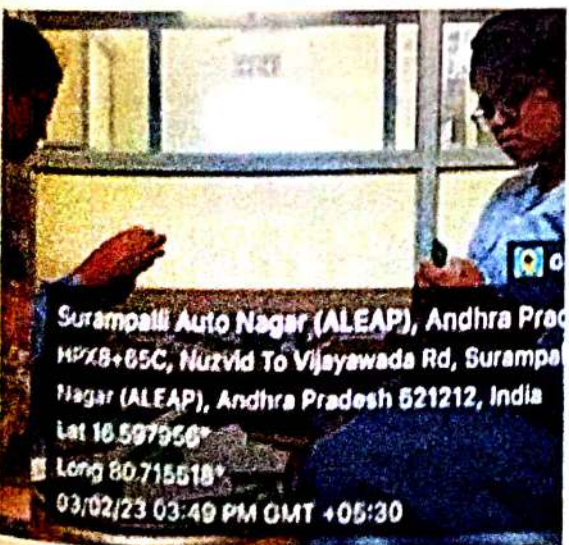
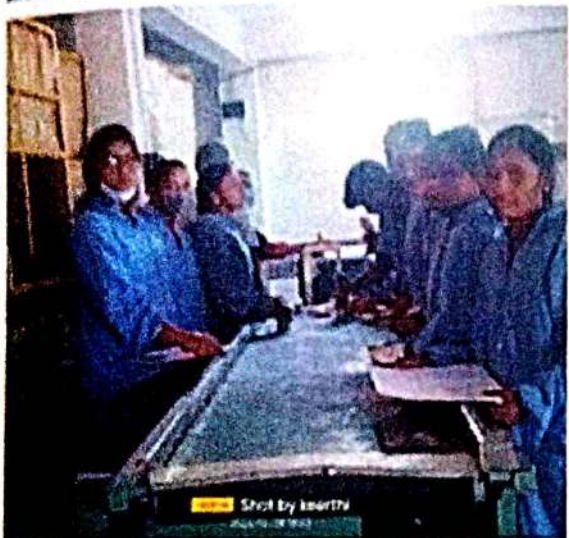
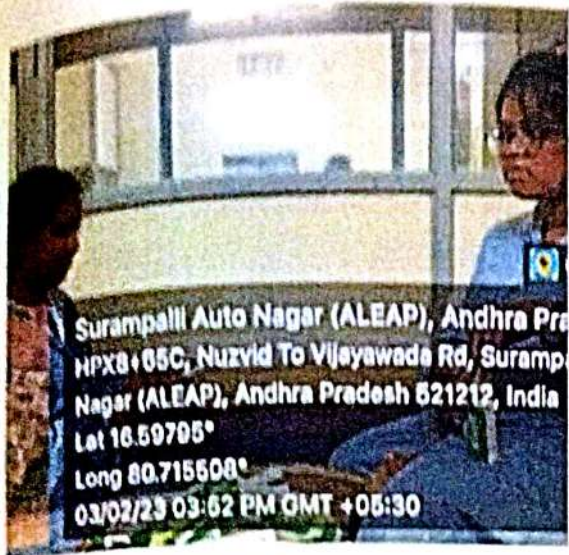


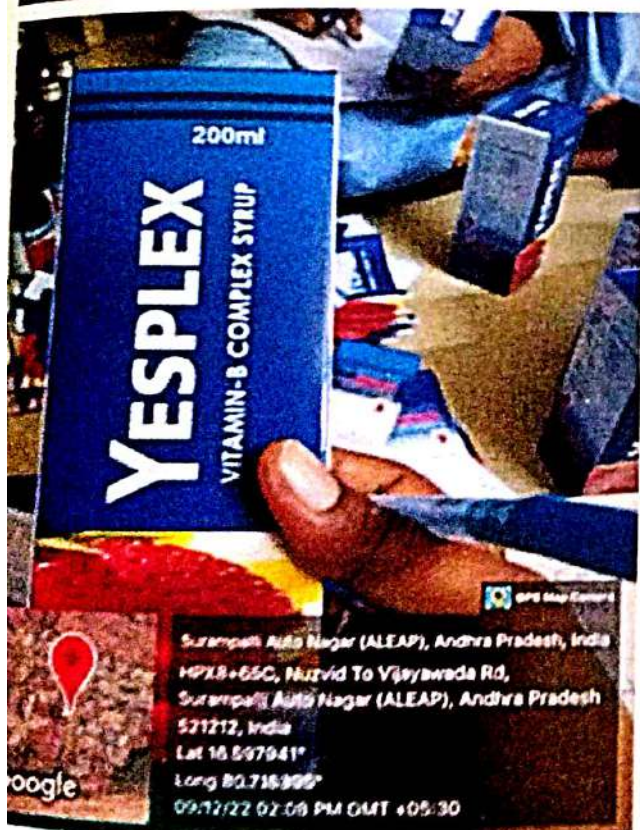




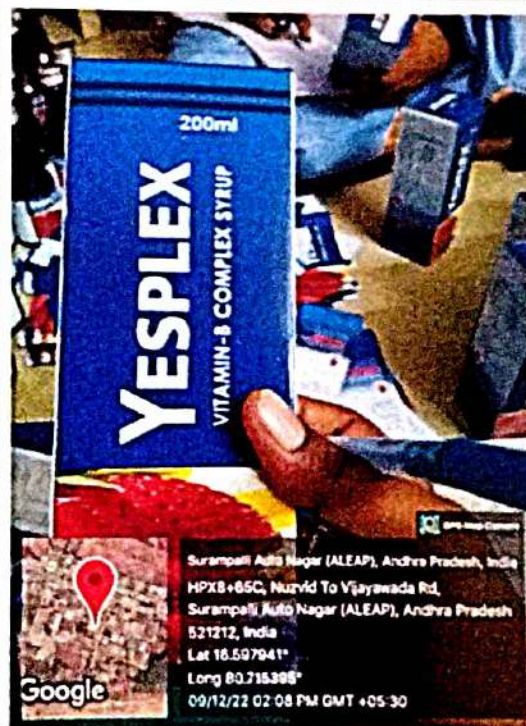
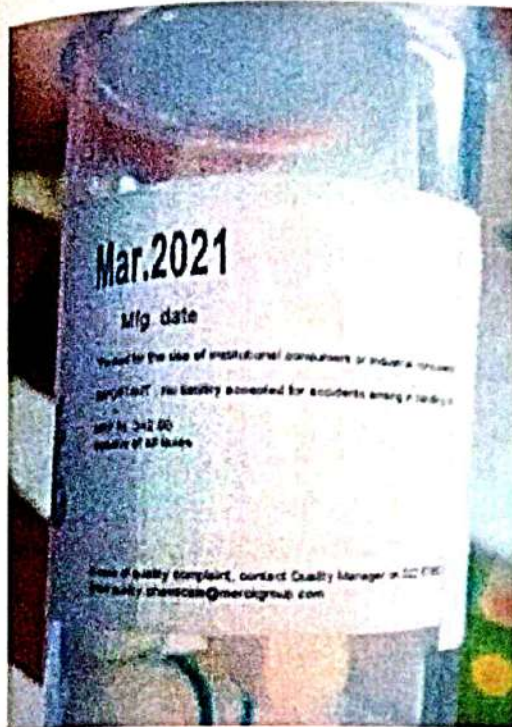


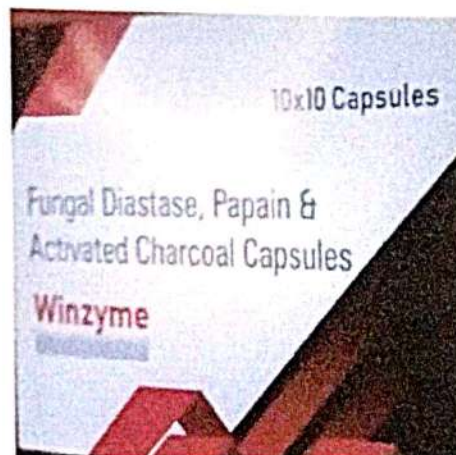


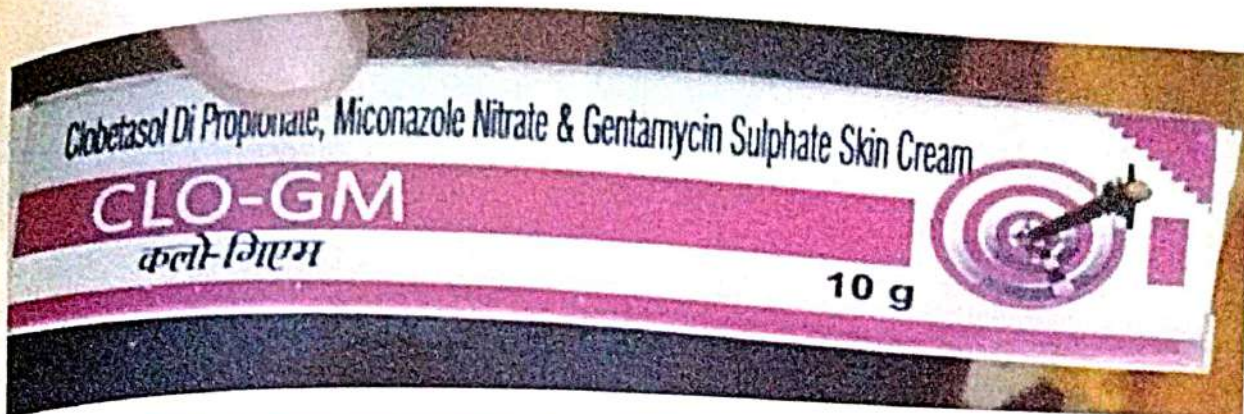












Composition	U.S.P	Wt %
Diclofenac Capsicum	1.P	0.07% w/w
Eq. To Capsicum	1.P	10% w/w
Methyl Salicylate	1.P	7% w/w
Menthol	1.P	5% w/w
Eucalyptus Oil	1.P	1% w/w
Diethylamine	1.P	1% w/w
Eq. To Diclofenac Sodium	1.P	1% w/w

Sixer Ointment

Relieves joint pains & swellings

30 gm.

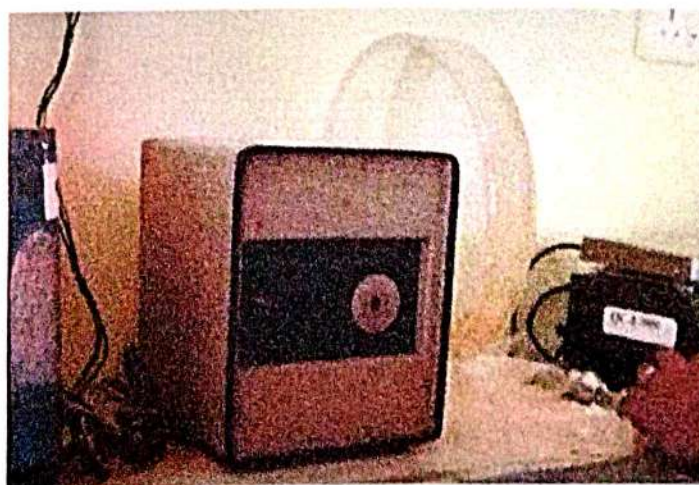
Sprains & strains
Muscular pain
Low back pain

सिक्कर

Indications: Muscular aches, Pains, Sprains and Swells, Low back pain, Joint pains and Osteoarthritis.
STORE IN A COOL, DRY PLACE. KEEP AWAY FROM CHILDREN.
Warning: To be used by retail on the prescription of a Registered Medical Practitioner only.
Dosage: As directed by the Physician.









DARWIN

DARWIN

Formulations Pvt. Ltd.

RESEARCH & AYUR PHARMA

Plot No. 96 & 97, ALEAP Industrial Estate,
Surampalli-521 212, Gannavaram Mandal,
Krishna District, Andhra Pradesh.

LINKS

- <https://microbenotes.com/high-performance-liquid-chromatography-hplc/>
- <https://youtu.be/--DJE5l08cY>
- <https://youtu.be/OpcxR4rCO5w>
- <https://pharmabeginners.com/operation-cleaning-performance-check-of-stability-chamber/>
- https://en.m.wikipedia.org/wiki/Tablet_hardness_testing
- <https://pharmaguddu.com/disintegration-test-apparatus/>
- <https://pharmawiki.in/tag/friabilator-principle/>
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- <https://pediaa.com/difference-between-molarity-and-normality/>
- <https://www.prismpharmamachinery.com/ms-mass-mixer.html#:~:text=The%20Mass%20Mixer%20is%20designed,drum%20%20stirrer%20and%20tilting%20device>
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- <https://www.lodhapharma.com/vibro-sifter-applicability-usability-in-pharmaceuticals.php#:~:text=Vibro%20Sifter%20is%20one%20of%20the%20crucial%20components%20for%20the,particles%20in%20the%20end%20product>
- <https://youtu.be/xopl8mAKn-g>
- <https://www.slideshare.net/PRABU12345678/capsules-105565461>
- <https://www.adinath.co.in/articles-pharmaceutical-machinery/overview-of-manual-semi-automatic-and-automatic-capsule-filling-machine/>
- <https://www.capsulemachines.in/hand-operated-capsule-filling-machine.html>

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- <https://www.chemistryscl.com/industrial/soap-production-manufacturing-process-saponification/index.php>



GPS Map Camera

Surampalli Auto Nagar (ALEAP), Andhra Pradesh, India
HPX8+65C, Nuzvid To Vijayawada Rd, Surampalli
Auto Nagar (ALEAP), Andhra Pradesh 521212,
India

Lat 16.597862°

Long 80.715457°

04/03/23 05:02 AM GMT +05:30

Google



DARWIN FORMULATIONS PVT. LTD.

Administrative Office :
54-18-37/4, AIR Colony
VIJAYAWADA - 520 008
Phone : 0866-2470708

DT: 04/03/2023

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **PEDAPUDI VANI**, Regd.no.2029223049021, a student of V.S.R Govt.Degree & PG College, Movva, Krishna Dist, pursuing fifth semester, has successfully completed her internship (19/11/22 to 4/03/23) in our organization. During the period of her internship program with us, she was found punctual, hardworking and inquisitive.

We wish her all the very best in all her future endeavours.

Thanking you,

M/S DARWIN FORMULATIONS PVT LTD.,



PRODUCTION MANAGER

(K. Padma Sree., M.Pharm)

Factory : Plot No. 96 & 97, ALEAP Industrial Estate, Surampally - 521 212.
Gannavaram Mandal, Krishna Dist., A.P.



: info@darwin.co.in / sales@darwin.co.in / admin@darwin.co.in

EVALUATION

Student Self Evaluation of the Short-Term Internship

Student Name: <u>Pedapudi Vani</u>	Registration No: <u>2029223049021</u>
Term of Internship: From <u>19/11/2022</u> To: <u>04/03/2023</u>	
Date of Evaluation:	
Organization Name & Address: <u>Darwin Formulations Pvt Ltd,</u> <u>ALCP Industrial estate, Surampalli- 521212, Gannavaram Mandal,</u> <u>Krishna dt, AP.</u>	

Please rate your performance in the following areas:

Rating Scale: Letter grade of CGPA calculation to be provided

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	OVERALL PERFORMANCE	1	2	3	4	5

Date:

P. Vani
Signature of the Student

Evaluation by the Supervisor of the Intern Organization

Student Self Evaluation of the Short-Term Internship

Student Name: **Pedapudi Vani**

Registration No: **20292230
49021**

Term of Internship: From: **19/11/2022** To: **04/03/2023**

Date of Evaluation:

Organization Name & Address: **Darwin Formulations Pvt Ltd,
ALCP Industrial estate, Surampalli-521212, Gannavaram Mandal,**

Krishna dt, AP .
Please rate your performance in the following areas:

Rating Scale: Letter grade of CGPA calculation to be provided

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
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4	Interaction ability with community	1	2	3	4	5
5	Positive Attitude	1	2	3	4	5
6	Self-confidence	1	2	3	4	5
7	Ability to learn	1	2	3	4	5
8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	OVERALL PERFORMANCE	1	2	3	4	5

P. Vani

Signature of the Student

Date:

Evaluation by the Supervisor of the Intern Organization

Student Name: Pedapudi Vani

Term of Internship:

From: 19/11/2022

Registration No: 20292230
49021

Date of Evaluation:

To: 04/03/2023

Organization Name & Address: Darwin Formulations Pvt Ltd, ALEAP
Industrial estate, Surampalli.
Name & Address of the Supervisor: K. Padma Sree
with Mobile Number

Please rate the student's performance in the following areas:

Please note that your evaluation shall be done independent of the Student's self-evaluation

Rating Scale: 1 is lowest and 5 is highest rank

1	Oral communication	1	2	3	4	5
2	Written communication	1	2	3	4	5
3	Proactiveness	1	2	3	4	5
4	Interaction ability with community	1	2	3	4	5
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8	Work Plan and organization	1	2	3	4	5
9	Professionalism	1	2	3	4	5
10	Creativity	1	2	3	4	5
11	Quality of work done	1	2	3	4	5
12	Time Management	1	2	3	4	5
13	Understanding the Community	1	2	3	4	5
14	Achievement of Desired Outcomes	1	2	3	4	5
15	OVERALL PERFORMANCE	1	2	3	4	5

Date: 4/3/23

Signature of the Supervisor
K. Padma Sree
4/3/23

MARKS STATEMENT
(To be used by the Examiners)

INTERNAL ASSESSMENT STATEMENT

Name Of the Student: Pedlapudi Vani

Programme of Study: B.Sc (BZC)

Year of Study: II

Group: BZC

Register No/H.T. No: 2029223049021

Name of the College: V.S.R Govt. Degree & P.G. College, Morva.

University: Krishna

Sl.No	Evaluation Criterion	Maximum Marks	Marks Awarded
1.	Activity Log	10	10
2.	Internship Evaluation	30	30
3.	Oral Presentation	10	10
	GRAND TOTAL	50	50



Date:

Signature of the Faculty Guide

EXTERNAL ASSESSMENT STATEMENT

Name Of the Student: Pedapudi Vani
 Programme of Study: Bachelor of Science (B.Sc)
 Year of Study: III
 Group: BZC
 Register No/H.T. No: 2029223049021
 Name of the College: V.S.R Govt. Degree & PG College, Movva.
 University: Krishna

Sl.No	Evaluation Criterion	Maximum Marks	Marks Awarded
1.	Internship Evaluation	80	79
2.	For the grading giving by the Supervisor of the Intern Organization	20	19
3.	Viva-Voce	50	48
	TOTAL	150	146
GRAND TOTAL (EXT. 50 M + INT. 100M)		200	196

Signature of the Faculty Guide

[Signature]

Signature of the Internal Expert

Signature of the External Expert

[Signature]


Signature of the Principal with Seal


 PRINCIPAL
 V.S.R. Govt. Degree College
 MOVVA - 521135, Krishna Dt., A.P.